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Chapter 4:

The Institutional Economics of Corruption

Susan Rose-Ackerman

Contemporary research on the institutional economics of corruption began with theoretical work that built on industrial organization, public finance, and price theory to isolate the incentives for paying and receiving bribes and to recommend policy responses based on that theory. My own 1978 book, *Corruption: A Study in Political Economy*, is an early example with its relatively straightforward application of economic concepts to the study of corruption. It used economic theory to understand what programs were especially susceptible to corruption and to recommend ways to reduce these incentives. That book largely relied on journalism to supply the facts because there were no statistical efforts to measure the harm caused by corruption. The closest empirical work by Anne Krueger (1974) and Jagdish Bhagwati (1974) measured the volume of rent seeking and illegal transactions in international trade by using the two sets of books available internationally – in exporting and in importing countries. Fortunately, in recent years it has become possible to move beyond journalism. Although empirical work on a topic that involves illegal activity remains difficult, empirical work employs a range of clever devices to generate quantitative estimates.

This chapter summarizes the institutional economics framework that continues to yield important insights into the causes and consequences of corruption. After introducing the conceptual framework, it discusses empirical research derived from this theoretical perspective and includes some thoughts on fruitful directions for future research.

1. The institutional economics framework

Corruption occurs where private wealth and public power overlap. It represents the illicit use of willingness-to-pay as a decision-making criterion. A private individual or firm makes a payment to a public official in return for a benefit or to avoid a cost. Bribes increase the private wealth of officials and may induce them to take actions that are against the interest of their principals, who may be bureaucratic superiors, politically appointed ministers, or

multiple principals, such as the general public. Illicit payments may also flow in the reverse direction. Those holding or competing for public office may make cash payments to private individuals, firms, or other officials to get benefits for themselves or their political parties. In both cases, pathologies in the agency/principal relation are at the heart of the corrupt transaction.

Whether the principal is a single, named superior or a diffuse body like the public at large, the essential point is that corruption represents the violation of an obligation or a duty in return for a private benefit. Officials or politicians who accept bribes violate the trust placed in them. Politicians who pay bribes to obtain political support undermine the legitimacy of democratic politics. Deterrence either can focus on changing the economic incentives to pay or receive bribes, or can increase the trustworthiness of agents by other means, such as seeking to instill a sense of loyalty and commitment to particular public institutions or to the general public interest. Bo Rothstein (2010) criticizes the principal/agent approach by arguing that thoroughly corrupt systems lack a benevolent principal. Even when the principal is the general public, Rothstein (2010) points out that voters frequently reelect corrupt politicians, perhaps because politicians pay for voters' support in the form of outright monetary payoffs of pork barrel projects. This critique, it seems to me, proves too much. First, individual identifiable principals who are harmed by the corruption of their subordinates are quite common, and they can be expected to support efforts to limit lower level corruption. Second, voters in some political system do punish corrupt politicians at the polls so long as a more honest alternative exists. Furthermore, if corrupt candidates are re-elected, one cannot conclude that voters necessarily approve of corruption but only that they have not been offered a credible, honest alternative. In the worst case that Rothstein (2010) posits, where the entire government hierarchy is on the take and voters prefer politicians who buy their votes, I agree that it does not make sense to consider piecemeal reforms. In such a system, with no separation between personal enrichment and public service, the agency/principal model is not a useful explanatory tool or guide to policy. However, it does not follow from the possible existence of such pathological cases that the principal/agent model is not a useful framework for the general run of cases.

Rothstein (2010) stresses the problem of vicious spirals where the corruption of some breeds the corruption of others until almost all are corrupt. This phenomenon is well-recognized in the economic analysis of corruption and can arise both from limited law enforcement resources and from reinforcing attitudes in which those who observe others' corruption begin to view such behavior as acceptable simply because it is common (Andvig/Moene 1990; Bardhan 1997: 1330-1334; Rose-Ackerman 1999: 107-109, 124-125). Rothstein (2010) argues that in such cases corruption cannot be limited through piecemeal, incremental reforms, and I agree. However, that conclusion is not a refutation of the principal/agency approach. The two approaches

are complements, not substitutes. Multiple equilibria models with vicious and virtuous cycles can arise under any of the principal/agent situations outlined in the institutional economics literature. Thus an entire police force or customs service can become corrupt over time with the level of corruption in one period leading to a higher level the next period. True, such corruption could move up the hierarchy over time, but that is not a necessary result of such spirals at one level.

Rothstein (2010) provides an interesting analysis of one set of conditions favorable to vicious spirals – programs that target a portion of the population and require officials to make individualized judgments in allocating benefits or imposing costs. This can, as Rothstein argues, undermine a norm of impartiality and produce corruption. However, Rothstein (2010) wants to define corruption as equivalent to this norm violation. He follows Oscar Kurer's definition of corruption as occurring when 'a holder of public office violat[es] ... the impartiality principle in order to achieve a private gain' (Kurer 2005: 230). To me, this definition confuses a normative issue – one type of harm caused by corruption – with the phenomenon under study. It excessively narrows the field of study to one particular, if important, type of harm. Although I agree that defining corruption as the misuse of public power for private gain leaves the key terms underspecified, it opens up a broad field of debate over the meaning of 'misuse' which may indeed vary across societies. Some of the most interesting issues in corruption research involve just such debates over the relative costs of different types of corruption in different settings. Rothstein (2010) would simply short circuit that debate by privileging one of the many costs of systemic corruption.

For me, a more fruitful approach is to describe the range of phenomena under study and to assess the relative costs of each relative to the costs of prevention. This may involve difficult tradeoffs between competing values that cannot easily be measured using a common metric, but that approach promises a richer and more nuanced set of research questions. Thus, I do not see the principal/agent approach as a restrictive one. It may fail to take account of dynamic factors and social forces, but it provides a valuable place to start and places the burden of proof on those wishing either to add additional complementary factors, such as vicious cycles, or to substitute an entirely different approach.

What then is the essence of that approach? Principals and agents operate within an institutional context. The insights of institutional economics are closely related to the economic analysis of corruption. Institutional economists and their political science fellow travelers stress the way the institutional context affects the behavior of individuals. They respond to the incentives, both carrots and sticks, created by institutions, broadly defined. The next step in the analysis is to study the incentives that face those with political and economic power to change the institutional structure in their favor. For a good introduction to the ambition and scope of the approach one should

consult the seminal work of Douglas North and his collaborators spanning thirty years (e.g. North 1981; North 1990; North/Weingast 1989; North/Wallis/Weingast 2009. See also Greif 2006). A top public official or private firm executive might reorganize an organization to create a more centralized structure or, conversely, to decentralize decision making to give more authority to those lower in the hierarchy or even to eliminate the hierarchy entirely (Williamson 1975). Political economists with an institutional focus study such questions as the impact of bureaucratic reorganization on public performance, the effect of privatizing formerly public services, the relative merits of presidential and parliamentary democracies, and the role of independent courts, central banks, and regulatory agencies. They study both how people and firms respond to existing institutions as well as the political and economic incentives to change institutional forms (for overviews see, e.g., Mueller 2003; Weingast 2002; Weingast/Wittman 2006).

Some of this analysis, both theoretical and empirical, discusses corruption along with other incentives to shirk through laziness or a desire for leisure or views it as part of the general tendency toward rent seeking in public life (North/Weingast 1989; North/Wallis/Weingast 2009). It asks how political incentives change with changes in government organization and studies how incentives and opportunities can lead to institutional change. However, corruption is seldom the subject of detailed analysis. Recent work on corruption from a wider range of scholars is helping to remedy that lack, but it needs to be more closely integrated into the general fields of political economy and institutional analysis (for one example of such an effort see Glaeser/Goldin 2006).

The economic analysis of corruption models private individuals and firms outside government as active players. They do not passively vote for politicians, apply for public benefits, or bid for contracts. Rather they strategically interact with officials and politicians to further their own interests. Corrupt officials may pressure them for payoffs by, but they may also actively seek to subvert public programs to favor themselves. They may accept payoffs from politicians in return for their votes or pay politicians to get private benefits. The basic framework follows research on rent seeking in institutional economics but is more nuanced and complex. The problem for principals is not just to incentivize agents but also to confront the three-sided nature of transactions between principals, public agents, and the outsiders with whom they must deal. Some of the insights generated by the analysis of corruption in the public sector apply to any hierarchy, public or private. Although mechanisms of control may differ between public and private entities, many of the same incentives for corruption arise (Rose-Ackerman 1978: 189-209).

The institutional economics of corruption highlights the way bribery affects both the efficiency and the fairness of public sector actions. Agency/principal relations pervade government, and most agents either deal directly with the public or have access to public resources that could be appropriated

for their own benefit. Hence, it is important both to find loci of corrupt incentives and to ask how corruption might affect the effectiveness of government action. In other words, there is both a positive and a normative aspect to the analysis. Some institutional economic analysis claims to be purely positive. It does not make judgments but simply reports how the incentives created by different institutions can be expected to affect behavior. This neutral stance is not possible in the analysis of corruption, a loaded term that comes with its own normative baggage. Rather one needs to combine institutional economics with welfare economics to assess the impact of corruption on government functioning in terms of both efficiency and fairness.

Begin with a simple corrupt situation. Bribes paid to agents may distort their choices away from the aims of their principals. If those aims further the efficient allocation of resources, bribery is inefficient. The analysis, however, extends beyond efficiency. If, for example, the goal of a public program is to benefit the poor or to select the most qualified, substituting willingness-to-pay for these criteria undermines the program's goals. In general, bribes are not just transfers from one pocket to another. They affect the behavior of those who pay and those who receive payoffs. In this they are similar to prices or to contractual terms. They provide incentives that work against the aims of a public program or, at least, increase its cost to the beneficiaries (Rose-Ackerman 1978: 137-166; 1999: 7-26).

To proceed, I differentiate between low-level opportunistic payoffs, on the one hand, and systemic corruption, on the other, that implicates an entire bureaucratic hierarchy, electoral system, or overall governmental structure from top to bottom.

Low-level corruption occurs within a given institutional framework where basic laws and regulations are in place, and implementing officials seize upon opportunities to benefit personally. Here is where the principal/agent model is most obviously applicable. There are several generic situations.

First, a public benefit may be scarce, and officials may have discretion to assign it to applicants. Suppose that superiors cannot observe payoffs but can easily check if any unqualified applicants receive the benefit. Then the qualified applicants with the highest willingness to pay and the fewest scruples will get the benefit in a corrupt system. This would seem the least problematic case from an economic efficiency perspective. The payoff is a transfer, and the benefit goes to those who value it the most in dollar terms. The main problems are the transaction costs of corrupt deals and the elimination of qualified beneficiaries with high scruples. The obvious policy response is to sell the benefit legally. It is a good test of this strategy to ask if any significant public policy goal would be violated by charging fees as a rationing device. For example, if a country has a limited supply of import licenses to allocate, selling them to the high bidder will usually be the efficient strategy. Most economists would recommend doing away with import quotas entirely, but if that is not an option, an auction is second best. Related cases are trans-

parent auctions for privatized firms and broadcast licenses, and competitive bidding for contracts.

Second, consider the ways in which the first example is idealized. In particular, suppose that low-level officials are required to select only qualified applicants and that their exercise of discretion cannot be perfectly monitored. The overall supply may be scarce, as in the above example (for example, university places or government-subsidized apartments), or open-ended (for example, driver's licenses, business firm registration, certificates of occupancy for new construction). In either case, the officials' discretion permits them to collect bribes from both the qualified and the unqualified. The level of corruption will depend upon the options for the qualified. For example, can they approach another, potentially honest, official? If they can, no individual corrupt official has much bargaining power and so cannot extract high payoffs. In some cases, inter-official competition might push bribes so low that they are no longer worth accepting given the risks of disclosure (Rose-Ackerman 1978: 137-150, Shleifer/Vishny 1993). Incentives for payoffs will also depend upon the ability of superiors to monitor allocations. For example, a firm that builds a shoddy building may be able to hide the flaws, at least until it is tested in a fire or an earthquake. Government contracting and the sale of state assets by lower level officials also often fit this case. Superiors cannot perfectly monitor official behavior so lower level bureaucrats can collect bribes that permit contracts to be given to poorly qualified firms and that allow asset sales to bidders who do not provide the state with the highest return.

Third, the bureaucratic process itself may be a source of delay and other costs. In that case incentives for corruption arise as applicants try to get to the head of the queue or otherwise get better service. To further exploit their corrupt opportunities, officials may create or threaten to create red tape as a means of extracting bribes. This strategy is plausible in many real world applications because even honest officials need to take some time and trouble to process applications.

Turn next to cases in which officials impose costs rather than benefits – for example, they seek to collect taxes or threaten citizens with arrest. They can then extract payoffs in return for overlooking the illegal underpayment of taxes or for tolerating illegal gambling and drug operations. More pathologically, they can demand payoffs in exchange for refraining from arresting people on trumped up charges.

Each of these potentially corrupt situations raises the question of how bribery occurs. What explains difference across individuals and societies in the incidence and level of payoffs? Part of the answer lies in the institutional framework that determines the nature and extent of the opportunities outlined above. However, within a given institutional environment, economic theory is poorly equipped to explain variation across individuals who face the same structural incentives. Some people clearly have more moral scruples or fear of exposure and punishment than others. Long-term, stable trusting relation-

ship further corruption in some cases and substitute for bribery in others. Both individual attitudes toward illegal activities and interpersonal relations affect the extent of corruption and the choices of individuals. However, given some background level of individual scruples and inter-personal solidarity, economics predicts that institutional changes that increase financial benefits and reduce costs will increase the incidence of corruption. The level of bribes paid is a function of the benefit at stake, the relative bargaining power of bribe payers and recipients, the risk of exposure, and expected punishments. Both cultural factors and objective measures of deterrence are important. Consider, for example, Fisman and Miguel's (2007) study of violations of traffic laws in New York City by United Nations diplomats. During a period when the law was not enforced against them, the level of violations was roughly correlated with Transparency International's Corruption Perceptions Index. However, the overall level of violations fell dramatically after a change in policy that gave the embassies an incentive to pay. Both financial penalties and 'culture' mattered.

In general, low-level corruption can lead to the inefficient and unfair distribution of scarce benefits, undermine the purposes of public programs, encourage officials to create red tape, increase the cost of doing business and limit entry, and lower state legitimacy. Notice, however, that corruption may have political benefits for incumbent politicians. The bribes may be paid at the lowest level in the hierarchy, but they may be part of an organized system that is used to favor political allies and to build campaign war chests, and not only to obtain individual cash benefits. At that point low-level corruption merges with high-level corruption.

'Grand' corruption shares some features with low-level payoffs, but it can be more deeply destructive of state functioning – bringing the state to the edge of outright failure and undermining the economy. The analysis of grand corruption must account for the possibility that top officials and politicians will create institutional environments that facilitate their illicit enrichment. Unlike low-level corruption, the institutional structure can be modified to increase the value of corrupt deals. To capture the reality of some cases we need to take account of the role of powerful non-governmental actors, be they large firms, criminal mafias, or other powerful bodies. Here, I assume that the general public is the principal and is harmed by grand corruption. However, this harm can occur even if ordinary citizens know nothing about corruption and the harm it causes. In that case, they are not in a position to correct the problem. Efforts at reform initiated by outsiders need to begin by convincing the populace that their interests are being undermined by corruption. In some cases, however, even if the damage done by corruption can be documented, no one may have the power or the political will to make systemic changes. I distinguish three variants.

First, a branch of the public sector may be organized as a rent extraction machine. For example, top police officials may organize large scale corrupt

systems in collaboration with organized crime groups, who are given a de facto monopoly on illicit activities. In practice, it may be difficult to know whether the police or the criminals have the upper hand. In the extreme, police may even arrest members of competing groups so as to maintain the dominant group's monopoly. Policing is probably the most dramatic example here, but tax collection agencies and regulatory inspectorates, to name just two, can also degenerate into corrupt systems where high-level officials manage and share in the gains of their inferiors (Das-Gupta/Mookerjee 1998; Rose-Ackerman 1978: 109-136; 1999: 27-38). These cases provide particularly strong examples of the vicious spirals discussed above. The principal/agent model still applies, but the proximate principal inside the bureaucracy becomes a pure rent-extracting body. Reform cannot occur without a thoroughgoing restructuring of the corrupt body that will require replacing personnel, changing its tasks, and introducing outside oversight, perhaps from civil society (Bardhan 1997: 1330-1334; Rose-Ackerman 1999: 107-109; Rothstein 2010).

Second, a nominal democracy may have a corrupt electoral system, with money determining the outcome. Here, there are many slippery slopes and difficult lines to draw. Political campaigns require funds from either public or private sources. Voters need to be persuaded to support particular candidates in one way or another, and corruption can enter in four ways. It can undermine limits on spending, get around limits on the types of spending permitted (that is, no direct quid pro quos), and subvert controls on the sources of funds. Finally, politicians may make payoffs to voters to get their support. There is no agreement about what should count as 'corrupt' in this context. The extremes are clear – vote buying and outright quid pro quo purchases of public benefits, but the more subtle distinctions are hotly contested (Rose-Ackerman 1978: 15-85; 1999: 127-174). Here as well, the analysis of corruption supplements work that studies the tradeoffs between the search for campaign funds and appeals to ordinary voters but ignores illegal behavior.

Third, governments engage in large projects can transfer assets in ways that have a significant effect on the wealth of domestic and foreign businesses. For example, they regularly contract for major construction projects such as highways and port improvements, allocate natural resource concessions, and privatize state-owned firms. High-level politicians may organize state institutions so that they can use their influence to collect kickbacks from private firms in all of these areas. The relative power of government officials and private interests may, in practice, be difficult to sort out. The extremes are kleptocracy, on the one hand, and state capture by powerful private interests, on the other. In some cases, concentrated power exists on both sides, and the institutional structure is a bargaining situation similar to a bilateral monopoly in the private market (Andreski 1968; Johnston 2005; Kahn/Jomo 2000).

Grand corruption can undermine state legitimacy and economic functioning. Most problematic is bilateral monopoly, where a narrow set of pow-

erful public and private figures controls the state. Some scholars dispute this claim. Using a market analogy, they observe that a monopolist seeks productive efficiency, and, in the presence of external effects and free riding, it is better to centralize power over resources. In Mancur Olson's term (1993), a 'stationary bandit' is better than a large number of 'roving bandits'. The evidence suggests, however, that most kleptocrats do not act like efficient monopolists. They are not that powerful. Far from choosing efficient projects that maximize monopoly profits, they need to buy off supporters. Given the risk of losing power, they often transfer their profits outside the country for safekeeping. The analogy to a private monopolist misses these aspects of kleptocratic government (Rose-Ackerman 1999: 114-124; Rose-Ackerman 2003).

Some claim that deep historical factors are the fundamental determinants of corruption and also can explain the impact of corruption on economic growth and other variables. If true, then one might conclude that countries cannot escape their history – some countries' pasts inexorably generate corruption. But that policy conclusion is overly pessimistic. Some statistical work uses historical factors for identifying purposes because they are clearly independent of present-day institutions. Thus, they solve the problem of simultaneous causation. Statistical work variously finds that settler mortality, colonial heritage, religion, and distance from the equator are good proxies for today's institutional structures (e.g., Acemoglu/Johnson/Robinson 2001). But these results do not imply that a country with background conditions associated with corruption and low growth cannot change, although it does suggest that change may need to be more radical and far reaching than in other countries. The massive transformations that have occurred in Central Europe, the former Soviet Union, China, and Vietnam demonstrate that change is possible and can occur quite rapidly. The transitions to democracy in Latin America and Asia, however unfinished and rough-edged, demonstrate the same point. Furthermore, in countries where widespread corruption has gone along with a strong growth performance, one can seek to understand both why corruption did not hold back growth and whether corruption had a disparate impact on particular sectors and social groups who bear the brunt of the corrupt gains earned by others. Such research could provide a more nuanced approach to policy-oriented studies that aim to understand how government and private sector institutions affect economic outcomes and the legitimacy of the state.

Research in anthropology and sociology stresses that cultural and social factors determine the level of corruption and explain why behavior is seen as corrupt in some societies but not in others (see de Zwart, this volume). Here too, the important issue from a policy perspective is whether these factors are exogenous or whether people react to others' behavior. For example, trust and trustworthiness can be a function of the behavior of others (Hardin 2002). A rational person will trust only those he or she believes are trust-

worthy. A person may be trustworthy not only as a result of moral scruples but also as a way of benefiting from the trust of others over time. In addition, people's view of the legitimacy of government may also depend up the fairness and even-handedness with which it operates. If some obtain benefits through corruption, others may view the state as illegitimate and become corrupt as well. As Rothstein (2010) argues, one advantage of universal benefits is that the state avoids having to decide who qualifies.

2. Empirical studies of the institutional economics of corruption

Empirical research on the economic determinants of corruption takes several forms. I describe research based on cross-country indices, studies that concentrate on institutional structures, results from surveys and experiments, and individual sector studies (see Rose-Ackerman 2004; 2006 for more details and references).

2.1 Cross-country studies

Cross-country research is mostly based on two similar indices of corruption developed by Transparency International (TI) and by the World Bank Institute. Both data sets are derived from perceptions of corruption as reported by the international business community and by experts in particular countries and regions. Thus, the indices do not represent hard measures of corruption, but both appear to capture, in a general way, its level as perceived by knowledgeable observers.

These indices have spawned a large number of studies demonstrating that corruption is associated with harmful outcomes and that institutions matter for growth. High levels of corruption are associated with lower levels of investment and growth, and corruption discourages both capital inflows and foreign direct investment (Lambsdorff 2003a; Mauro 1995; Wei 2000). Acemoglu, Johnson, and Robinson (2001) find that when the risk of expropriation is high, growth rates tend to be low. Most measures of institutional quality are correlated, and in this case, expropriation risk and corruption go hand in hand so that the same association holds for corruption. Corruption lowers productivity, reduces the effectiveness of industrial policies, and encourages business to operate in the unofficial sector in violation of tax and regulatory laws (Ades/Di Tella 1997; Lambsdorff 2003b; Kaufmann 1997).

Highly corrupt countries tend to under-invest in human capital by spending less on education, to over-invest in public infrastructure relative to private investment, and to have lower levels of environmental quality (Mauro 1997; Esty/Porter 2002; Tanzi/Davoodi 2002). High levels of corruption produce a

more unequal distribution of income under some conditions, but the mechanism may be complex – operating through lower investments in education and lower per capita incomes (Gupta/Davoodi/Alonso-Terme 2002; Gupta/Davoodi/Tiongson 2001). Corruption can undermine programs explicitly designed to help the poor. For example, Olken (2006) shows how corruption and theft undermined a rice distribution program in Indonesia. Corruption and theft apparently turned a welfare-improving program to one that was welfare-reducing.

Corrupt governments lack political legitimacy (Anderson/Tverdova 2003) although the political supporters of corrupt incumbent governments, not surprisingly, express more positive views. Surveys carried out in four Latin American countries in 1998 and 1999 showed that those exposed to corruption had both lower levels of belief in the political system and lower interpersonal trust (Seligman 2002). Surveys of firms in countries making a transition from socialism provide complementary findings. Firms with close connections with the government did better than other firms, but countries where such connections were seen as important for business success did worse overall than those where political influence was less closely tied to economic success (Fries/Lysenko/Polanec 2003).

In circumstances of low government legitimacy, citizens try to avoid paying taxes, and firms go underground to hide from the burden of bureaucracy, including attempts to solicit bribes. Using data from the World Values Survey and Transparency International, Uslaner (2010) shows that high levels of perceived corruption are associated with high levels of tax evasion. Similarly, Torgler's (2006) study of attitudes toward tax evasion in Central and Eastern Europe show that when individuals perceived that corruption was high, they were less likely to say that people have an obligation to pay taxes. Thus, one indirect impact of corruption is to persuade people that it is acceptable not to pay taxes because government has been captured by corrupt officials and those who support them. As a consequence, corrupt governments tend to be smaller than more honest governments, everything else equal (Friedman/Johnson/Kaufmann/Zoido-Lobaton 2000; Johnson/Kaufmann/McMillan/Woodruff 2000). Thus in corrupt governments, the individual projects are excessively expensive and unproductive, but the overall size of the government is relatively small.

Unfortunately, the consequences of corruption are difficult to distinguish from the causes; the causal arrow appears to go both ways. Most of the results reported above could be flipped so that causes become consequences. An iterative process may operate where corrupt institutions limit growth and low growth encourages the development of corrupt institutions. Kaufmann, Kraay, and Mastruzzi (2006) examine the issue of causation econometrically and claim that the dominant direction of causation is from weak governance, including high corruption, to low growth. Under this view, the prescriptions of economists who urge countries to get their macro-economic incentives

right will not work unless the state has institutions capable of putting such policies into effect. Even if there is a feedback mechanism from low growth to high corruption and from high growth to low corruption, the growth process cannot begin without reasonably well-functioning institutions.

However, there are distinct limits to cross-country research. It assumes enough regularity in the phenomenon so that a single statistical model can cover the world. The relation between macro variables and corruption will indeed distinguish between very corrupt and very clean states. In the former, state failure is so pronounced that pro-growth policies cannot be carried out by the government. In the latter, the state is competent, and citizens support high taxes because their funds are used effectively to provide public services. But most countries fall in the middle range, and here the connection is less clear. Countries with similar rankings have very different institutional environments so that corruption is concentrated in different sectors. Furthermore, indices based on the perceptions of business investors may miss corruption experienced by ordinary people. This diversity in the middle counsels an emphasis on research at the sector and country level.

2.2 Corruption and government structure

Cross-country research does not test the actual mechanism that connects institutional measures to economic outcomes. Some research, however, has begun to explore these connections. These studies ask whether the specific nature of corrupt deals can help explain their impact and whether a country's constitutional structure is a determinant of the levels and types of corruption.

Kunicová and Rose-Ackerman (2005) study the links between constitutional structures and voting rules, on the one hand, and perceptions of corruption on the other. They distinguish between corruption that enriches elected officials and legal public spending programs with regionally concentrated benefits – ‘pork barrel’ politics. Only the former falls under their definition of corruption. They show that presidential systems are more corrupt, on balance, than parliamentary democracies and that proportional representation systems are more corrupt than first-past-the-post systems. The worst systems combine strong presidents with proportional representation under which a powerful executive can negotiate with a few powerful party leaders to share the spoils of office. Their results confirm Persson and Tabellini's (2003) finding that proportional representation system are more corrupt than first-past-the-post systems but contradict their more favorable results for presidential systems (see also Peters, this volume).

Federalism and decentralization add another dimension. One simple view derives from work in the political economy of institutions. Drawing on Barry Weingast's notion of market-preserving federalism, this view holds that decentralization will limit corruption both by making it easier for ordinary peo-

ple to monitor government officials and by giving them an exit option if officials are overtly corrupt (Weingast 1995). However, some work finds that federal states are more corrupt than unitary ones (Treisman 2000). Moreover, there are conceptual reasons to doubt a strong connection between decentralized government and integrity. Smaller polities may contain more uniform groups of people so that politics may be less competitive, leading to increased corruption. Local elites may seize control of a town or village government, but they may face greater collective action problems in larger government units (see Peters, this volume). A local kleptocracy may be especially difficult to control in rural areas in poor countries where wealthy landlords exercise political power and ordinary people have no realistic exit options (Bardhan and Mookherjee 2006).

2.3 Surveys and Experiments

Much recent research uses surveys and experiments to understand how business people and ordinary citizens experience and evaluate corruption. Surveys help to capture the way corruption affects different parts of society, and they highlight the connections between corruption and government legitimacy. Experiments permit a more controlled assessment of human behavior, but they may miss the nuance of real world situations where subtle interpersonal cues may operate to encourage or discourage payoffs.

The best survey work is based on households' experience with public officials, not just individual attitudes. Jennifer Hunt (2006), for example, uses detailed data from Peru to calculate the ratio of bribes paid to usage rates. She finds that the judiciary is the most corrupt institution, followed by the police. Surveys of business firms provide another window on the phenomenon of corruption. For example, World Bank surveys in Central and Eastern Europe document the specific ways that corrupt officials and intrusive rules affect businesses and show how corrupt environments impose costs (Hellman/Jones/ Kaufmann 2003; Hellman/Kaufmann 2004; Johnson/Kaufmann/McMillan/Woodruff 2000).

Surveys demonstrate how firms manage to cope when legal institutions are weak. Informal relationships built on trust and private sanctions exist but cannot easily bear the entire burden of maintaining business deals. Weak states produce widespread corruption, private protection rackets, and the flouting of regulatory and tax laws. As I noted above, the system may be caught in a trap in which corruption breeds even more corruption in the future until it is all pervasive.

One institution that is particularly important is the security of property rights. In Eastern and Central Europe countries with more secure property rights have higher levels of new investment by established firms (Johnson/McMillan/Woodruff 2000; 2002). Property rights are less secure if brib-

ery and protection payments are common and if the courts do not enforce contracts. Thus, corruption is not a route to a secure relationship with the state but opens up possibilities for extortion. Furthermore, if firms pay for protection, either to private mafias or to the police, this reduces the security of rights as well (Johnson/McMillan/Woodruff 2002). Trust in the state as a reliable actor seems important. Firms appear willing to substitute legal and impartially administered taxes for the uncertainties of bribe payments and the dangers of relying on private protection services (Friedman/Johnson/Kaufmann/Zoido-Lobaton 2000). Thus, when corruption becomes part of the institutionalized business environment, it has serious feedback effects on the operation of private markets.

One way to study the impact of institutional arrangements on behavior is to construct experiments where the institutional environment can be manipulated to study behavioral responses. In the study of corruption, a few experiments exist, and this appears to be a fruitful area for future research. The experiments provide an interesting twist on the large body of research on trust games (Abbink 2006). Under a common laboratory scenario, payoffs in trust games are highest if players completely trust each other, but strict rationality predicts that players will maximize short-term gains by acting in untrustworthy ways. Experimental results are usually somewhere in the middle. The twist is that, in conventional games, trust is a desirable trait, but in corrupt situations trust permits illegal corrupt deals that are harmful for society. In the experiments the players exhibit some trust, meaning that they are willing to make payoffs that are destructive of other goals. Players do not take into account the social losses of their actions and are most strongly deterred by the possibility of punishment.

Researchers are beginning to carry out field experiments to see how corruption affects the delivery of public services or the allocation of licenses. Much of this work is still in progress, but a study of corruption in obtaining drivers' license illustrates their potential (Bertrand/Djankov/Hanna/Mullainathan 2006). That study documented how corruption raised the price of obtaining a license and permitted many unqualified drivers to be certified.

2.4 Sector Specific Anti-corruption Policies

Corruption is sometimes discussed as if it were a broad generic concept. In practice, however, it operates at the sector level. Thus, it is important to study how the institutional environment creates incentives for corruption in the delivery of particular public services, such as education, health, highways, or national defense. A World Bank publication provides an excellent introduction to this approach and draws on related work based on analyses of government service delivery, public works, tax collection, and customs (Campos/Pradhan 2007). This research highlights the importance of melding techno-

cratic institutional reform based on economic reasoning with a sophisticated understanding of the politics of systems that permit corruption to persist over time.

Reinikka and Svensson (2004) carried out a detailed study of the connection between accountability and corruption in the delivery of public services based on primary school financing in Uganda. They documented the severe leakage of central government funds as it was passed down to the grass roots – one dollar of central government funds only produced \$0.13 in budget for local schools. This finding galvanized public opinion, and central government officials took action. They introduced a simple, information-based strategy combined with better monitoring from the center. After the reform's introduction, one dollar expended by the center produced \$0.80 of local school funds, and school enrollment rose. Much of the improvement can be explained by a newspaper campaign that allowed parents to know how much money their children's school was supposed to obtain.

This example shows how institutions interact to produce or to stymie reform. An information strategy cannot be effective on its own. In Uganda, already existing parent-teacher groups used the information to monitor school spending. In other countries, more costly and complex interventions might be necessary. Education may be a special case because it is a service used by children on a daily basis, unlike, say healthcare, where demand is more episodic, and sick and injured users are vulnerable to exploitation.

Public works are a common locus of corruption. Golden and Picci (2005) have studied public works in Italy. They combine measures of the physical public capital stock with measures of historical costs to estimate the relative efficiency of public spending throughout Italy. Building on research that finds that corruption and waste go together, they assume that corrupt officials encourage wasteful projects as a way of generating rents. Overall, the physical index favors the northern part of the country, and the financial index favors the south. The ratio of the two provides a rough measure of the relative levels of corruption and inefficiency. Golden and Picci go on to show that regions with unproductive public spending tend to have more than their share of deputies accused of corruption. Political corruption is associated with waste and kickbacks in public contracts.

Tax and customs collection are a frequent locus of payoffs, and international financial institutions have many times attempted to reform these activities through institutional innovations. Research in Africa and Latin America has studied the impact of semi-autonomous revenue agencies (Taliencio, Jr. 2004) and of customs reform (De Wulf/Sokol 2004). The aim is to limit political interference and to get away from the constraints of the civil service system. In most cases reforms initially produced gains in revenue collection and falls in corruption. But as with many initiatives, the gains often were not sustained over time. For example, Fjeldstad (2006) studied the Uganda Revenue Authority (URA). After marked initial success, revenue be-

gan to fall, and corruption reemerged. He argues that the relatively high financial rewards given to the staff were ineffective in deterring corruption. Employment in the relatively well-paying URA escalated workers' obligations to provide financial support for their extended families creating incentives to take bribes. Political interference and patronage also undermined reform goals. The tax law was complex and unclear and left room for widespread discretion. This encouraged people to use connections to get special treatment.

To avoid these political and social dynamics, it is sometimes possible to turn over an aspect of government operation to an organization located entirely outside the country. Yang (2006) has examined the most prominent real-world example – private pre-shipment inspection (PSI). PSI firms value imported goods before they leave their port of origin and then earn a fraction of the value of the imports. More than 50 developing countries have hired PSIs over the last two decades. At the aggregate level, these programs appear successful and cost effective. Reductions in corruption are a prominent cause of these increases. But success is not guaranteed, and the failures shed light on the conditions under which such programs are likely to succeed. Yang focuses on two countries: the Philippines and Colombia. He finds that if PSI only covers a subset of potential methods of avoiding import duties, then there can be substantial displacement to alternative methods. Furthermore, PSI firms and their employees must not be corruptible themselves.

3. Conclusion

The study of corruption is well suited to the institutional economics framework. An understanding of the incidence and effect of corrupt payoffs and private networks requires one to understand how institutions work – both formal structures and informal networks. Further, corruption benefits the recipients of bribes and may also benefit those who pay if they can obtain undeserved or expedited benefits in return. Hence, on the one hand, corrupt officials and politicians may seek to reorganize the state to increase the opportunities for enrichment. On the other hand, satisfied bribe payers have no incentive to blow the whistle on the practice. As I recognized in my first 1978 book, corruption is an archetypal topic for political economic analysis. Even if one evokes cultural and social factors, one cannot deny that self-interest plays a prominent role. Reform may seek to change the norms of officials and private individuals, but it must also deal with the underlying incentives for payoffs by rearranging the rewards and costs of corrupt and honest behavior. Institutional reform is a necessity and must take into account the insights of institutional economic analysis.

To see how corrupt incentives operate in practice, this chapter has selectively summarized empirical research on corruption that emphasizes the role

of institutions. Common patterns recur throughout the world and across sectors, so that the lessons learned in one area have relevance elsewhere. But it is also essential to examine the institutional structure of particular systems or sectors. The underlying economic incentives for corruption in public works, the police, the judiciary, tax and customs collection, and procurement are common throughout the world. Yet the incidence and severity of the problem vary widely. Effective policy cannot just concentrate on catching and punishing 'rotten apples'. Policy must address the underlying conditions that create corrupt incentives, or it will have no long-lasting effects. The sorts of structural and incentive-based policy responses that are outlined here – both the successes and the failures – can guide governments that are genuinely committed to reform.

Yet, I end on a note of caution. Clever technical solutions, based on economic incentives, may not be enough. If corruption is one of the pillars supporting a political system, it cannot be substantially reduced unless an alternative source of revenue replaces it. Powerful groups that lose one source of patronage will search for another vulnerable sector. Strong moral leadership is necessary but not sufficient. Tough political and policy choices need to be faced squarely. It is little wonder that effective and long-lasting corruption control is a rare and precious achievement. But it is not beyond the power of determined and intelligent political reformers.